AMENDMENTS TO THE CLAIMS

1.   (Currently Amended) A ~~monitoring~~ computer system comprising:

~~a cluster of application servers communicatively coupled on a network to serve~~ ~~applications over the network to a plurality of clients, each of the application servers~~ ~~comprising server nodes;~~

an application server having a plurality of application levels including management level, agent level, and instrumentation level, the agent level having a ~~plurality of~~ management bean ("MBean") ~~servers~~ server associated with ~~the~~ server nodes of the application ~~servers~~ server, the MBean ~~servers comprising~~ server to provide monitor MBeans ~~being~~ generated by a monitor service, the monitor MBeans ~~are arranged in~~ being arranged in a hierarchical monitor tree having ~~a plurality of~~ ~~nodes, wherein~~ each monitor MBean ~~is represented as~~ representing a node of the monitor tree; and

the instrumentation level having resource MBeans ~~associated with~~ and their corresponding resources ~~capable of being monitored~~, each resource MBean capable of monitoring its uniquely identified corresponding resource exclusively at the instrumentation level, ~~each of the resource MBeans collecting~~, each resource MBean being further capable of collecting monitoring data relating to its uniquely identified corresponding ~~associated~~ resource and providing the monitoring data to the monitor MBeans, wherein the resource MBeans are mapped to the monitor MBeans ~~within the~~ via nodes of the monitor tree ~~to establish a link between each of the monitor MBeans and its~~ ~~uniquely identified corresponding resource~~ such that each monitor MBean at the agent level ~~receives~~ is capable of receiving monitoring data relating ~~to its corresponding~~ to a

resource from its ~~associated~~ corresponding resource MBean at the instrumentation level;

~~and~~

~~notification logic to generate a notification in response to certain specified~~ ~~events associated with the resources, the notification logic distributing notifications~~ ~~across all, or a subset of, the server nodes of the cluster.~~

2.   (Cancelled)

3.   (Currently Amended) The computer system as in claim 1 ~~further~~ ~~comprising~~ wherein the application sever further comprising:

a dispatcher ~~node configured within each application server~~ to distribute client requests to each of the server nodes, the dispatcher having a dedicated MBean server associated ~~therewith to monitor resources within the dispatcher~~ with the management MBean server.

4.   (Cancelled)

5.   (Cancelled)

6.   (Cancelled)

7.   (Currently Amended) The system as in claim 1 ~~further~~ ~~comprising:~~ wherein the management level comprising a graphical visual administration ~~interface configured~~ tool to generate and provide graphical images representing the ~~notification~~ monitoring data.

8.   (Cancelled)

9.   (Cancelled)

10.   (Cancelled)

11.   (Cancelled)

12.   (Currently Amended) A method comprising:

employing a plurality of application levels within an application server, the application levels including management level, agent level, and instrumentation level, the agent level having ~~associating a plurality of~~ a management bean ("MBean") ~~servers with a respective plurality of application~~ server associated with server nodes of the application server, ~~each of~~ the MBean ~~servers comprising~~ server to provide monitor MBeans being generated by a monitor service, the monitor MBeans being arranged in a hierarchical monitor tree having each monitor MBean representing ~~and having registered therewith resource MBeans, wherein each of the resource MBeans, the application server nodes together forming a cluster of application servers to serve applications over a network to a plurality of clients, and the monitor MBeans are arranged in a hierarchical monitor tree having a plurality of nodes, wherein each monitor MBean is represented as~~ a node of the monitor tree; and

employing resource MBeans and their corresponding resources at the instrumentation level, each resource MBean capable of monitoring its uniquely identified corresponding resource exclusively at the instrumentation level, each resource MBean being further capable of collecting ~~associated with resources capable of being monitored, each of the resource MBeans collects~~ monitoring data relating to its uniquely identified corresponding ~~associated~~ resource and providing the monitoring data to the monitor MBeans~~associating the resource MBeans with resources capable of being monitored, each of the resource MBeans collecting monitoring data relating to its associated resource~~, wherein the resource MBeans are mapped to the monitor MBeans via nodes of ~~within~~ the monitor tree ~~to establish a link between each of the monitor MBeans and its uniquely identified corresponding resource~~ such that each monitor MBean ~~receives~~ at the agent level is capable of

receiving monitoring data relating ~~to its corresponding~~ to a resource from its

~~associated~~ corresponding resource MBean at the instrumentation level~~; and~~

~~generating a notification in response to certain specified events associated with~~

~~the resources, the notification being distributed across all, or a subset of, the server~~

~~nodes of the cluster~~.

13.   (Cancelled)

14.   (Currently Amended) The method as in claim 12 ~~wherein each~~

~~application server comprises a plurality of server nodes and at least one dispatcher,~~

~~the method~~ further comprising:

employing a dispatcher to distribute client requests to each of the server nodes,

the dispatcher having a dedicated ~~associating an~~ MBean server associated with the

management MBean server~~with each dispatcher, each of the MBean servers having~~

~~registered therewith the resource MBeans; and~~

~~associating the resource MBeans with a plurality of respective dispatcher~~

~~resources, each of the resource MBeans collecting and reporting monitoring data for its~~

~~associated dispatcher resource~~.

15.   (Cancelled)

16.   (Cancelled)

17.   (Cancelled)

18.   (Currently Amended) The method as in claim 12 further

comprising: generating and providing graphical images representing the

monitoring data via a graphical visual administration tool at the

management level~~interface configured to generate graphical images~~

~~representing the notification~~.

19.   (Cancelled)

20.   (Cancelled)

21   (Cancelled)

22   (Currently Amended) An article of manufacture including program
code which, when executed by a machine, causes the machine to perform
the operations of:

employing a plurality of application levels within an application server, the
application levels including management level, agent level, and instrumentation level,
the agent level having a ~~associating a plurality of~~ management bean ("MBean") ~~servers~~
~~with a respective plurality of application~~ server associated with server nodes of the
application server, ~~each of~~ the MBean ~~servers compromising~~ server to provide monitor
MBeans being generated by a monitor service, the monitor MBeans being arranged in a
hierarchical monitor tree having each monitor MBean representing ~~and having registered~~
~~therewith resource MBeans, the application server nodes together forming a cluster of~~
~~application servers to serve applications over a network to a plurality of clients, and the~~
~~monitor MBeans are arranged in a hierarchical monitor tree having a plurality of nodes,~~
~~wherein each monitor MBean is represented as~~ a node of the monitor tree;

employing resource MBeans and their corresponding resources at the
instrumentation level, each resource MBean capable of monitoring its uniquely
identified corresponding resource exclusively at the instrumentation level, each
resource MBean being further capable of collecting ~~associated with resources capable~~
~~of being monitored, each of the resource MBeans collects~~ monitoring data relating to
its uniquely identified corresponding ~~associated~~ resource and providing the
monitoring data to the monitor MBeans~~associating the resource MBeans with the~~

resources capable of being monitored, each of the resource MBeans collecting

monitoring data relating to its associated resource, wherein the resource MBeans are

mapped to the monitor MBeans via nodes of within the monitor tree to establish a

link between each of the monitor MBeans and its uniquely identified corresponding

resource such that each monitor MBean receives at the agent level is capable of

receiving monitoring data relating to its corresponding a resource from its associated

corresponding resource MBean at the instrumentation level; and

generating a notification in response to certain specified events associated with

the resources, the notification being distributed across all, or a subset of, the server

nodes of the cluster.

23.   (Cancelled)

24.   (Currently Amended) The article of manufacture as in claim 22 wherein

each application server comprises a plurality of server nodes and at least one dispatcher,

the article of manufacture comprising additional program code to cause the machine to

perform the operations of:

employing a dispatcher to distribute client requests to each of the server

nodes, the dispatcher having a dedicated associating an MBean server with each

dispatcher, each of the MBean servers having registered therewith the resource

MBeansassociated with the management MBean server; and

associating the resource MBeans with a plurality of respective dispatcher

resources, each of the resource MBeans collecting and reporting monitoring data for

its associated dispatcher resource.

25.   (Cancelled)

26.   (Cancelled)

27.   (Cancelled)

28.   (Currently Amended) The article of manufacture as in claim 22 wherein the article of manufacture comprising additional program code to cause the machine to perform the operations of~~further comprising~~: generating and providing graphical images representing the monitoring data via a graphical visual administration ~~interface configured~~ tool at the management level~~to generate graphical images representing the cluster-wide notifications~~.

29.   (Cancelled)

30.   (Cancelled)

31.   (Cancelled)

32.   (New) The computer system as in claim 1, wherein the monitor MBeans to receive the monitoring data from the resource MBeans via passive instrumentation, the passive instrumentation including the resource MBeans automatically providing the monitoring data to the monitor MBeans.

33.   (New) The computer system as in claim 1, wherein the monitor MBeans to receive the monitoring data from the resource MBeans via active instrumentation, the active instrumentation including the monitor MBeans to actively collect the monitoring data from the resource MBeans.

34.   (New) The computer system as in claim 33, wherein the active instrumentation is performed upon occurrence of a specified event associated with the resources, the specified event including one or more of reaching a specified time period, reaching a specified change in the monitoring data, receiving, at a resource MBean, a random request from a monitor MBean, reaching a critical resource value, and a resource becoming unavailable.

35.   (New) The computer system as in claim 34, the application server to generate a notification in response to the occurrence of a specified event associated with the resources, the notification being distributed across all, or a subset of, a cluster of servers having application servers coupled to the application server.

36.   (New) The method as in claim 12, wherein the monitor MBeans to receive the monitoring data from the resource MBeans via passive instrumentation, the passive instrumentation including the resource MBeans automatically providing the monitoring data to the monitor MBeans.

37.   (New) The method as in claim 12, wherein the monitor MBeans to receive the monitoring data from the resource MBeans via active instrumentation, the active instrumentation including the monitor MBeans to actively collect the monitoring data from the resource MBeans.

38.   (New) The method as in claim 37, wherein the active instrumentation is performed upon occurrence of a specified event associated with the resources, the specified event including one or more of reaching a specified time period, reaching a specified change in the monitoring data, receiving, at a resource MBean, a random request from a monitor MBean, reaching a critical resource value, and a resource becoming unavailable.

39.   (New) The method as in claim 38, the application server to generate a notification in response to the occurrence of a specified event associated with the resources, the notification being distributed across all, or a subset of, a cluster of servers having application servers coupled to the application server.

40.   (New) The article of manufacture as in claim 22, wherein the monitor MBeans to receive the monitoring data from the resource MBeans via passive

instrumentation, the passive instrumentation including the resource MBeans automatically providing the monitoring data to the monitor MBeans.

41. (New) The article of manufacture as in claim 22, wherein the monitor MBeans to receive the monitoring data from the resource MBeans via active instrumentation, the active instrumentation including the monitor MBeans to actively collect the monitoring data from the resource MBeans.

42. (New) The article of manufacture as in claim 41, wherein the active instrumentation is performed upon occurrence of a specified event associated with the resources, the specified event including one or more of reaching a specified time period, reaching a specified change in the monitoring data, receiving, at a resource MBean, a random request from a monitor MBean, reaching a critical resource value, and a resource becoming unavailable.

43. (New) The article of manufacture as in claim 42, the application server to generate a notification in response to the occurrence of a specified event associated with the resources, the notification being distributed across all, or a subset of, a cluster of servers having application servers coupled to the application server.